MEDAD TEAM

VISION TEAM

Important Notes in

Ophthalmology

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CORNEA

Written questions:

1- Anatomy.√
2- Complication of corneal ulcer√.
3- Local ttt o f ulcer.
4- Cl/ picture and ttt of dendritic ulcer.√
5- Keratoconus√.
6- Keratomalacia.
7- Neuroparalytic.
8- Arcus senilis.

- **Draw minute anatomy of the cornea:**

Oral questions:

- **Limbal function:**
  1- Anatomical and surgical landmark.
  2- Site of aqueous exit channel.
  3- Site of tm cell important for regeneration.

- **Organisms which can pass through intact corneal epithelium are:**
  H. egyptica, listeria, Diphteria & gonococci.

- **Cauterization:**
  1. Carbolic acid (100%) in Hypopyon ulcer ⟶ Hypopyon is deep, carbolic acid can diffuse to organism.
  2. Zinc sulphate in Hypopyon ulcer ⟶ 10% of Hypopyon is caused by Morax ; which is sensitive to zinc.
  3. Iodine and alcohol (7%) in dendritic ⟶ they act superficially by making coagulum that prevent more penetration & progression of ulcer,

- **Systemic antiviral only for:**
  1- Immuno compromised in diciform keratitis.
  2- Systemic disease affect eye.
  3- Virus inside the eye, e.g. (uveitis & trabeculitis).

- **Siedel test**
  - ➢ Where did u hear this word (Siedel) again in the curriculum?
    - ✓ Siedel scotoma.

- **Diff between healing edge & advancing edge?**
- **Can leucoma cause glaucoma?**
  - ✓ Yes, in leucoma adherent.
- **Diff between fliesher ring & kayser fleisher?**
  - ✓ 1st in keratoconus -2nd in chalcosis bulbi.

- **Surgical ttt of keratoconus :**
  1- Corneal cross-linking (remove epithelium use riboflavin then UV rays)
  2- Corneal rings.
  3- Keratoplasty.

❖ **NB:-**
- ➢ Complications of dendritic ulcer:
  - ✓ Hemorrhagic uveitis
  - ✓ 2ry glaucoma
  - ✓ 2ry bacterial infection
- ➢ Lasik can not be used in keratoconus as it will weaken the cornea more.

Department Book

- **Discuss corneal ulcer complications:** *To be added to the items in the book:*
  1. Complicated Cataract in non-perforated ulcer (after iritis & glaucoma).
  2. Epithelialization (after fistula).
  - If the corneal fistula isn't treated, the epithelium may migrate & line the back of cornea, angle & anterior surface of the iris.

Complications with or without perforation:

1- Amblyopia & squint in unilateral corneal opacity (when age<6y).
2- Nystagmus in bilateral corneal opacity (when age<6ms).
3- Atheromatus ulcer in degenerated leucoma.

- **Mechanism of loss if sensation in Neuroparalytic keratitis:**

1- Loss of corneal protection.
2- Loss of reflex blinking.
3- Loss of trophic impulses.
4- Production of harmful antidormic impulses (i.e. Damaged nerve release damaging material).

- **Role of 2 in Arcus senilis:**

1- 2 arches (up & down).
2- 2 white areas (Arcus & Sclera) separated by clear zone (lucid interval).
4- 2 infiltrations (superficial & deep).

- **Grading of corneal ulcer:**

Point of Comparison	Size (mm)	Depth (%)	Infilteration	Sclera
Mild Moderate Severe	< 2 2 – 5 > 5	< 20 20 – 25 > 50	Superficial Mid stroma Deep	Not Not Affected

- **Corneal dystrophies:**
  - ✓ They are inherited corneal affections that are bilateral, stationary or slowly progressive with absence of inflammation, most of them present at early age.

- **Marginal corneal ulcer:**

Non-Infective:
1- Phlyctenular.
2- Mooren ulcer.
3- Secondary to systemic diseases as Rh. Arthritis, SLE, Polyarthritis nodusa due to Limbal obliterative Vasculitis and accompanying dry eye.

Infective;
3- HSV "rare".
4- Secondary to MPC, PC. Staph blepharitis, trachoma.

- **Recurrent corneal erosion syndrome.** (see the book at page 83).
- **Systemic vascular corneal disorders** p.81.
- **Forms of herpetic keratitis** p.76.
- **Corneal opacities** (written question).

Cases

1- Water from swimming pool splashed into eye of soft contact lens wearer the patient rubbed his eye. 2 weeks later he developed severe pain, red eye. Then he was given antibiotic for 2 weeks but he deteriorated more:

a- Culture and sensitivity for specific antibody.
b- Culture for virus.
c- Culture for fungus.
d- <u>Culture for corneal biopsy for acanthoma.</u>

2- 35 man has pain in right eye for several days watering, photophobia and blurring of vision. Symptoms recurrent. He has acute attack of common cold one week before.

- Answer: Dendritic ulcer.

3- Left eye injury with piece of wood two weeks ago. It developed redness, defective vision. He received broad spectrum antibiotic drops and ointment for 2 weeks.

- Answer: Fungal corneal ulcer.
- Investigation needed: Take a biopsy.

4- Patient with keratoconus using permeable rigid contact lenses successfully corrected visual acuity 6/9. He developed sudden drop of vision with discomfort watering right eye. After ten weeks vision improved to partially 6/60 with disappearance of discomfort.

- Diagnosis: acute hydrops.
- Management: Keratoplasty.

5- 10 years old complains of blurring of vision, uncomfortable glasses with frequent itching sensation. Vision with his glasses was 6/60 and 6/36. It is not possible to have accurate refraction. Cornea looks clear. Right anterior chamber looks deeper than left.

- Answer: Keratoconus due to itching → spring catarrh.
- Investigation → topography.
- Management → hard contact lens or surgery(deep lamellar Keratoplasty 0r corneal rings)

6- 16 years old wearing glasses -4D in both eyes . Her last wear was -3D one year ago. Soft contact lens occasionally with no complications. Her best corrected visual acuity is 6/6 both eyes. Is LASIK suitable for her?

- Answer: No LASIK till the vision become stable as there is a risk to be keratoconus as her vision changed 1D in one year.

Notes

- **<u>DEBRIDEMENT:</u>**
  - Is scraping of infective corneal epithelium.

- **<u>NO SIGNS OF KERATOCONUS</u> → NO CILIARY INJECTION.**

- **<u>IN KERATOCONUS:</u>**
  - Palccido disk is → keratoscope.
  - Keratometry → measures the diameter.
  - Topography is the best.

- **Serpiginous ulcers are 3.**
  1- Hypopyon.
  2- Fasicular.
  3- Mooren.

- **D.D of corneal ulcers:**

Point of Comparison	Bacterial	Viral	Fungal	Acanthoma
Symptoms 1- Pain 2- Vision	Severe Poor	Mild Better	Moderate Poor	Severe +++ Poor
Signs 1- Lid/ conj. 2- Shape 3- Level 4- Site 5- Ant. Ch.	Edema, congestion Disc with 2 edges Deep Central Hypopyon	Edema, congestion Dendritic Superficial Central Flare	Edema, congestion Disc with satellite Deep Central Hypopyon	Edema, congestion Broad dendritic Superficial Central Flare or Hypopyon

- **Central corneal ulcer:**
  1- Hypopyon.
  2- Dendritic.
  3- Fungal.
  4- Bacteria.

LENS

Written questions:

1. Anatomy of the lens.(gross-microscopic)
2. Congenital cataract (Cl/picture – ttt). Write types in short.
3. Senile cataract-table of senile cataract.
4. Causes and Cl/picture of complicated cataract. Vvvvvvvv.imp (the most important question in cataract.
5. Traumatic cataract.
6. Subluxation.
7. Dislocation.
8. Aphakia/Pseudophakia "Errors of refraction"+ details of intraocular lens in Pseudophakia.

• Changes occur in lens with age:

1- Inc. size.
2- Hardness.
3- If opacity acquire color (Darkening).
4- Decreased water content.

Department Book

• Causes of accommodation loss(paralysis)

Pathological:

1- Lens problems:

a) Aphakia.
b) Posterior dislocation.

2- Nerve muscle:

a) 3rd nerve palsy.
b) Cycloplegics.
c) Diphtheria.

Physiological:

- Presbyopia.

• Marfan's syndrome:

- Ocular → Ectopia lentis + angle anomalies + Retinal degeneration.
- Systemic → Long bones + joint hyper extensibility + skin hyper elasticity + Arachnoductia "long fingers".

• Advantages of small incision cataract operation:

1- Less astigmatism.
2- Rapid wound healing.
3- Rapid rehabilitation.
4- Less complication "Hge, infection".

• traumatic cataract :

- Perforating trauma by:

1. Knife.
2. Foreign body as:
   - ✓ Iron: causes siderotic cataract.
   - ✓ Copper: causes sun-flower cataract

• Immature cataract =incipient.

- **PCO** = posterior capsule opacification few years after ECCE.

Notes

- **IN LENTICULAR ASTIGMATISM AS IN SUBLUXATION WE CANNOT USE CONTACT LENSES BUT ONLY GLASSES OR LENS EXTRACTION**
- **OD** =right eye
- **OS** = left
- **OU** =both

SOFT CATARACT	HARD CATARACT
25 years No hard nucleus Lens protein crystalline	> 25 years Hard nucleus Albuminoid

- **DIFFERENTIATE BETWEEN I/A & ECCE:**

I/A made in children where there is no nucleus.
ECCE is the same like I/A but nucleus must be removed first by phaco-emulsification.

- **VOSSIUS RING MAY OCCUR IN:**

1- Traumatic cataract. When? After mydriasis
2- Broken ring synechia.

- **DIFFERENCE BETWEEN CATARACT & AFTER CATARACT:**

Both are opacities but cataract with intact capsule & after cataract with ruptured capsule.

- **EVALUATION OF CONGENITAL CATARACT:**

1- Density: dense if
  - Fundus is hardly or not seen.
  - RR is hardly or not seen.
2- Visual function:
  - Signs of severe visual impairment: squint, Nystagmus.
  - Visual function tests:
  e.g. VEP (Visual Evoked Potential) ,OKN (OptoKinetic Nystagmus) & Perfertional looking (interesting in non homogenous than homogenous).

- **EVALUATION OF ADULT CATARACT:**

Slit lamp.

- **TTT OF CONGENITAL CATARACT: "CORRECTION OF APHAKIA"**

a) Glasses.
b) Contact lens.
c) IOL.
d) Refractive surgery.

- Ambylopia → occlusion therapy.

- **Anterior chamber lens: is used in:**

- Intracapsular cataract extraction
- Extracapsular if posterior capsule injured.

- **Which is more dangerous anterior or posterior dislocation of lens:**

- Both lead to glaucoma, iritis & decrease visual acuity, but anterior dislocation is more dangerous as it may touch the cornea (ocular emergency).

- **Defective vision in:**

- **Nuclear cataract:**
  - ✓ Far → Myope + day vision

- **Cortical cataract:**
  - ✓ Near → Hypermetrope + night vision

- **Preventable cataract:**

- True diabetic cataract.
- Galactosemic cataract.

Local steroid	Systemic steroid
Spring catarrh. Iridocyclitis. Glaucoma > cataract	Collagen tissue disorder. "arthritis" Cataract > Glaucoma

- **Effect of laser:**

1- YAG laser → photo-disruption effect (cutting laser).
2- Argon → photothermal.
3- Eximer → Photoablation.

Cases

- *78 patient complain of difficult in seeing:*
  RT: 6/60 Lt: CF, No improvement on pin hole, the cornea was bilaterally clear. RR and fundus Seen with difficulty
  - Diagnosis → Senile cataract.

- *Ocular examination of newly born has revealed bilateral congenital cataract with congenital disease.*
  - Diagnosis → Rubella.
  - History → Rash in mother in "1st trimester".

Oral

- **If there is cataract & glaucoma:**
  - we do glaucoma operation 1st or together except in intumescent &hypermature cataract we do cataract 1st

- **Piggy pack :** 2 IOL:
  - ✓ One in the back
  - ✓ The second in ciliary sulcus.
  - Used in ttt of congenital cataract to facilitate later removal of anterior lens when child grows & becomes myopic

- **Indications of lens extraction in congenital cataract:**
  - Unilateral.
  - Bilateral asymmetrical.
  - Bilateral symmetrical dense.
  - Bilateral symmetrical faint if glasses failed.
  - Total.

EYE LIDS

Written questions:

* Anatomy (write glands of lid).
* Stye.
* Hordeolum internum.
* Chalazion.
* Trichiasis.
* Ectropion, Entropion & ptosis.
  (Causes & Cl/picture & ttt).
* Symblepharon.
* Madarosis.
* Lagophthalmos.

Stye	Chalazion
Abscess. Swelling. Rapidly progression. Painful. Better vision	Granuloma. Swelling. Slowly progression. Painless. Worse due to astigmatism

Cases

- *16 years old female has scales on lashes, skin was greasy with dandruff margin.*
  - Diagnosis: Squamous blepharitis.

- *Male patient complains of continuous redness at both eyes with FB sensation and loss of lashes. Lid margin was hyperemic with yellow crusts and left painful ulceration. When removed it left minute bleeding.*
  - Diagnosis: Ulcerative blepharitis.
  - DD:
    1- Ulcerative → hyperemic + ulcer.
    2- Squamous → hyperemic only.
    3- MPC → normal margin.

- *Patient with swelling in upper lid since one year ago didn't change in size, then now red and painful. The first line of ttt is:*
  a- <u>Upper lid tapping. = drainage</u>
  b- Immediate histopathological.
  c- CT.
  d- Simple excision.

- *Female 13 years old patient with recurrent multiple painful swelling at left eye. VA was 6/12 and 6/18. Lower lid had red swelling and tender. ttt is:*
  a- <u>Maintain systemic antibiotic.</u>
  b- Maintain vitamins.
  c- Correction of error of refraction.
  d- Long term topical antibiotic

Oral

- **Periodic ptosis:**
  - ✓ Myasthenia gravis: at night.
  - ✓ Marcus Gunn: on moving jaw.
- **Difference between electrolysis & diathermy:**
  - Electrolysis: Low current → chemical reaction (Direct current).
  - Diathermy: High current → thermal reaction, no chemical reaction (Alternating current).

- **ttt of:**
  - Congenital Trichiasis "districhiasis" is easier → Extra line of lashes.
  - While acquired Trichiasis → Rubbing lashes at same line.

- **ENTROPION:**

  - The Commenst cause:
    - ✓ In Egypt: Cicatricial due to Trachoma at upper lid.
    - ✓ All world: Senile in lower lid due to small tarsus easily rolled

CONGENITAL PTOSIS	ACQUIRED PTOSIS
More. Since birth. Bilateral. Complication. No cause.	Less. Any time. Unilateral. No. Cause.

- **USES OF MUCOUS MEMBRANE OPERATION:**

1- Lateral canthoplasty.
2- Van Milengen operation.
3- Curative ttt of symblepharon.
4- Pterygium surgery.

Department Book

- **THE REST OF DIFFERENCES BETWEEN HORDEOLUM INTERNUM & EXTERNUM:** P.27

LACRIMAL SYSTEM

WRITTEN QUESTIONS:

1- Anatomy (Secretory + drainage). Write precorneal tear film.
2- Epiphora "causes & investigation & clinical evaluation".
3- Acute Dacryocystitis.
4- Chronic Dacryocystitis.
5- Operations

- **Watery eye in a child:**

Lacrimation	Epiphora
1-Buphthalmus. 2-Districhiasis. 3-Cong. Entropion. 4-Others (FB , ulcer)	1-Cong. Stenosis of punctum or canaliculus. 2-Cong. Ectropion.

- **Canaliculitis:**

Fungal Canaliculitis	Bacterial Canaliculitis
-Streptothrix. -Obstruction due to sulfur granules. -Gritty sensation on probing.	-Any bacterial cause. -Obstruction due to congestion. -Soft sensation on probing.

CONJUNCTIVA

Written questions:

1- Anatomy.
2- MPC.
3- Purulent.
4- Ophthalmia neonatorum.
5- Trachoma.
6- Angular conjunctivitis.
7- Follicular conjunctivitis.
8- Phlyctenular conjunctivitis.
9- Spring catarrh.
10- Pterygium.
11- Dry eye.

- **Staph. Aureus is the most common organism causing inflammation in the anterior segment of eye.**

- **Blindness in Egypt is commonly due to:**
  1- Trachoma & purulent conjunctivitis.
  2- OAG.
  3- Diabetic retinopathy.

- **Blindness in whole world is commonly due to:**
  1- Senile macular degeneration.
  2- OAG.

3- Diabetic retinopathy.
So Trachoma is the most preventable cause of blindness in the world

Oral:

- **Ring ulcer is found in:**
  1- Purulent conjunctivitis.
  2- Membranous conjunctivitis.
  3- Phlyctenular conjunctivitis.
  - It is due to either; fusion of multiple marginal ulcer or one ulcer spread infection to canal of Schlemm.

- **Rings in ophthalmology :**
  - Ring abscess in panophthalmitis.
  - Kayser Fleisher ring.
  - Fleisher ring.
  - Vossius.
  - Ring scotoma in retinitis pigmentosa.

- **Colored haloes around light are found in:**
  1- MPC.
  2- Corneal edema (Glaucoma prodromal stage).
  3- Immature corneal cataract (Incipient).
- **Diphteria present with → pus, mucous & blood.**

- **Purulent conjunctivitis present with → pus & mucous.**

- **Viral conjunctivitis ttt is: Hot fomentation**

Advantages	Disadvantages
-VD = more, which will bring: o Leucocytes. o Immunoglobulin.	-VD = more, which will cause: o Discomfort. o Edema. o Flare up.

- So, it can be in case of MPC as discharge is little but in purulent conjunctivitis increase discharge with hot fomentation may cause edema and bad case progression.

Cases:

1. *In 1999 Egyptian citizens have complained of bilateral red watery eyes with marked follicular reaction along lower palpebral conjunctiva & pre auricular lymphadenopathy, Diagnosis is:*
   a- Active trachoma.
   b- Epidemic kertoconjunctivitis.
   c- MPC.
   d- PC.

2. *Female patient 18 years old, contact lens wearer since 2 years. Complains of redness, lacrimation & foreign body sensation, VA is 6/6 and flurosceine test is –ve. Most probable cause is:*
   a- Acute anterior uveitis.
   b- Giant papillary conjunctivitis.
   c- Bacterial corneal ulcer.
   d- Acute congestive glaucoma.

3. *School teacher noticed that one of her students complains of rubbing his eye, conjunctival injection and gelatinous masses. Most probable cause is:*
   a- Bulbar spring catarrh.
   b- Cobble stones.
   c- Trachoma.
   d- Palpebral spring catarrh.

4. *Painful tender non itchy localized redness of conjunctiva is due to:*
   a- Bulbar spring catarrh.
   b- Episcleritis.
   c- Vascular pterygium.
   d- Phlyctenular conjunctivitis.

5. *50 years old patient with rheumatoid arthritis complains of red eye, tearing and burning sensation for past several years, vision is not clear but it improves by blinking, most probable cause is:*
   a- Allergic.
   b- Dry eye.
   c- Trachoma.
   d- Chronic Dacryocystitis.

Although there is tearing, it is dry eye as it improves by blinking which means that cornea is irregular.

6. *Bitot spots due to:*
   a- Dec. vit. B.
   b- Dec. vit. C.
   c- Dec. vit. A.
   d- Dec. vit. D.

Notes

- **OCULAR MANIFESTATION DUE TO UV:**

❖ Conjunctiva:
1. Pingecula.
2. Spring catarrh.
3. Pterygium.

❖ Cornea:
1. Activation of Herpes Simplex.

❖ Lens:
1. Senile cataract. (but complicated due to infra red)

❖ Injuries:
1. Photophthalmia.

- **IN PROBLEM SOLVING:** contact lenses: either acanthameba or giant papillary conjunctivitis.

- **PHLYCTEN IS TYPE 4 HYPERSENSITIVITY REACTION WHILE SPRING CATARRH IS TYPE 1.**
- **FOLLICLES ARE ABSENT IN SPRING CATARRH & IT IS NOT TTT WITH ANTIBIOTICS.**

Department Book

- Angular conjunctivitis p.55
- Acute non-infective conjunctivitis p.60
- Classification p.49

UVEA

WRITTEN QUESTIONS:

1- Anatomy of iris.
2- Anatomy of ciliary body.
3- Causes of Iridocyclitis.
4- Clinical picture of Iridocyclitis.
5- Complications of Iridocyclitis. Vvvvvvimp.
  - Syndromes vvvvvvvvvimp. In problem solving
6- D.D of Iridocyclitis "red eye". Vvvvvvimp.
7- Treatment of Iridocyclitis.
8- Panophthalmitis & Endophthalmitis.

ORAL

- **CAUSES OF RUBEOSIS IRIDIS :**
  1. CRVO (ischemic stage).
  2. PDR.
  3. Long standing RD.
  4. Long standing iridocyclitis.
  5. Ischemic ocular syn. Of carotid artery.

- **RED REFLEX :**
  1- Grey: retinal detachment.
  2- Black: vitreous hge. - Nuclear cataracta nigra.
  3- Yellow: Endophthalmitis – panophthalmitis.
  4- Double: Iridodialysis.
- **WHEN ARE MYDRIATICS INDICATED & MYOTICS CONTRAINDICATED IN GLAUCOMA?**
  - Neovascular glaucoma & iridocyclitis.

Department Book

- Diseases of ciliary body p.125
- Chronic iridocyclitis & inflammation of choroids p.131

GLAUCOMA

WRITTEN QUESTIONS:

1- Anatomy of angle.
2- Measurement of IOP.
3- Buphthalmos (diag. & management).
4- Angle closure (diag. & D.D & management).
5- OAG (diag. & recent investigations→OCT & scanning laser oohthalmoscopy & medical ttt)
6- Lens causes.
7- Traumatic glaucoma.

- **ACG :**
  1. Cl/picture.:
     - SS
     - Fate
  2. D.D (CAUSES OF RED EYE TABLE)
  3. TTT

- **GRADE 4:** ciliary body band is seen → OAG not seen.
- **GRADE 3:** scleral spur is seen → OAG not seen.
- **GRADE 2:** TM is seen → closure is possible.
- **GRADE 1:** schwalbs line is seen → closure is enevatiable.
- **GRADE 0:** irido –corneal contact → closed angle.

- **CAUSES OF LARGE EYE IN A CHILD :**

PINT OF COMPARISON	BUPHTHALMOS	CONG. MYOPIA	MEGALOCORNEA
CORNEA	Hazy	Clear	clear
ANGLE	Anomalies	Normal	Normal
IOP	High	Normal	Normal
FUNDUS	Cupping	Degeneration	Normal
REFRACTION	Myopia less than expected from axial length	↑ myopia	↑ myopia

ORAL:

- **LASER TTT IN GLAUCOMA :**

1. ***in ACG:***
   - LASER iridectomy.
   - Disadvantage. :
     a. Higher risk of closure
     b. Increase IOP (spike)??? ↑ IOP
2. ***IN OAG:***

   -ALT (argon laser trabeculoplasty)
3. ***In Refractory and absolute glaucoma:***
   - Cyclophotocoagulation.

Department Book

- Classification of glaucoma p.93'94
- Management of POAG p.98
- Plan for medical ttt p.99

ERRORS OF REFRACTION

1- **Myopia** ⟶ Def. - Causes – Complication – Fundus – Management.
2- **Hypermetropia** ⟶ Def. - Component.
3- **Astigmatism** ⟶ Def. - Classification - Correction –Cl .p.(signs &symptoms &types (all))
4- **Anisometropia**
5- **Presbyopia**

ORBIT

Written questions:

1- Causes of Proptosis. Vvvvvvvvimp.
2- Orbital cellulitis
3- C.S thrombosis
4- Causes of acute inflammatory Proptosis, Vvvvvvimp. (Write the table as a whole)
5- Panophthalmitis
6- Endophthalmitis
7- Enophthalmos.

VITROUS

Written questions:

1- Causes of Musca Volitans.
2- Vitreous Hemorrhage.

I.O. TUMORS

Written questions:

1- Retinoblastoma Vvvvvvimp.
2- Malignant Melanoma Vvvvvvimp.
3- Leucoria.

COLLECTIONS

Written questions:

1- **Corticosteroids** (Indications – Dangers).
2- **Ophthalmic** (Laser – def).
3- **Causes of :**
   - ✓ Gradual dim. Of vision.
   - ✓ Rapid dim. Of vision.
   - ✓ Sudden dim. Of vision.
   - ✓ Diplopia.
   - ✓ Night blindness.
   - ✓ Scotoma.
   - ✓ Staphyloma.
   - ✓ Differences bet. Ciliary injection & conjunctival injection p. 7.
   - ✓ Types of field defects p.16.

PUPIL

Written questions:

1- **Causes of Miosis:** from table.
2- **Causes of mydriasis:** from table.
3- **Causes of dilated fixed pupil.**
   - ✓ Mydriasis except physiological & large eye.
4- **Causes of Anisocoria** (asymmetrical pupil) :
   - ✓ From the table Except: Bilateral changes for example :
     - o Drugs in one eye.
     - o Constricted / dilated (hatchinson syn.).

SQUINT

Written questions:

1- **Latent squint** (Def. – Causes – Cl/pic. –ttt).
2- **Heterophoria.**
3- **Exophoria.**
   - ✓ 1, 2, 3: The Same Answer.
4- **Paralytic squint diagnosis = the clinical picture as a whole.**
5- **Amblyopia** (Def. - Types - ttt).
   - ✓ ttt of Latent Squint :
- ➢ Base towards deviation: exercising.
- ➢ Apex towards deviation: reliving.

TRAUMA

Written questions:

1- Iris & pupil effects of blunt trauma.
2- Traumatic cataract.
3- Fundus picture following trauma: see below.
4- I.O F.B.
5- Siderosis.
6- Chalcosis.
7- Sym. Ophthalmitis. Vvvvvvvvimp.

- Siderosis } - Cl/pic (table).
- Chalcosis } - Short account. –Diagnosis. – Localization. – ttt.

8- Fundus Picture due to Blunt Trauma:
    - ✓ Vitreous.
    - ✓ Choroid.
    - ✓ Retina.
    - ✓ Optic n.

RETINA

Written questions:

1- Anatomy:
    - ✓ Layers.
    - ✓ Normal Fundus.
2- CRAO. Vvvvvvimp.
3- CRVO. Vvvvvvimp.
    - ✓ Types.
    - ✓ Cl/Picture, Fate.
4- Vascular Retinopathy.
5- Hypertensive.
6- Pre-eclampsia.
7- Diabetic Retinopathy. Vvvvvvimp.
    - ✓ Types.
    - ✓ Ocular Manifestation of DM.
8- Retinal Detachment.
    - ✓ Def-Types.
    - ✓ Causes and Cl/Picture.
    - ✓ D.D of Rhegmetous RD.
9- Retinitis Pigmentosa.

- **CRAO**
  1- Discuss.
  2- Fundus picture.
  3- ttt.
  4- D.D. of cherry red spot.

- **D.D. OF CHERRY RED SPOT**

	HISTORY	VISION	PUPIL
1-CRAO	Hypertension.	Sudden loss.	Afferent p. reflex.
2-COMTIO RETINAE	Blunt trauma.	Rapid drop down to HM.	Sluggish.
3-QUININE AMBLYOPIA	Quinine therapy.	No PL.	Afferent p. reflex.
4-AMAUROTIC FAMILY IDIOCY	Jewish & + ve Consanguinity.	No PL.	Afferent papillary Reflex.
5-MACULAR HOLE WITH CENTRAL RD	High myopia.	< 6/60.	Sluggish.

- **CRVO :**
  1- Discuss
  2- Cl/pic. (Symptoms – Signs – Comp. – Table).
  3- Ischemic (Symptoms – Signs – Comp. – Table).
  4- Non-ischemic (Symptoms – Signs – Comp. – Table).
  5- Etiology.

PREDISPOSING FACTORS:

✓ General:
- Hypertension- DM - blood diseases.

✓ local:
- Hypermetropia- high IOP –periphlebitis.

- **RET. DETACHMENT :**
  ✓ Causes & Risk factors
  ✓ Cl/pic. Of rhegmatogenus detachment.

Notes

- **GRADES OF HYPERTENSIVE RETINOPATHY:** should be written in any type of vascular retinopathy.
- **IN ANY STAGE OF DIABETIC RETINOPATHY:** we should write complications (advanced stage).

Department Book

- **IN DIABETIC RETINOPATHY:**
  - ✓ 50% of patients develop it after 10 years.
  - ✓ 90% after 30 years.
- **ARMD** = Age-related Macular Degeneration p150
- **DETAILS OF TRACTIONAL & EXUDATIVE RD:** p.153
- **DIFFERENCE BET. RHEGMATOGENUS RD & NON:** p.154

- **OPTIC NERVE :**
  1- Causes of papilledema.
  2- D.D. of papilledema & papillitis. Vvvvvvimp.
  3- Methyl alcohol amblyopia.
  4- Optic nerve atrophy (1ry, 2ry & Consecutive).
     - ✓ Etiology.
     - ✓ Symptoms.
     - ✓ Signs.
     - ✓ Fundus pic.
     - ✓ D.D.
     - ✓ Ttt.

- **FOSTER KENEDY SYNDROME :**
  - Etiology: frontal lobe tumor.
  - Cl/pic.:
    - ❖ Ipsilateral op. nerve trophy:
      - ✓ Symptoms.
      - ✓ D.D (table).
      - ✓ Signs.
      - ✓ Fundus pic.
    - ❖ Contralateral papilledema:
      - ✓ Symptoms.
      - ✓ Signs.
      - ✓ Papilledema & papillitis (DD).

- **FUNDUS PIC. OF CONSECUTIVE OPTIC NERVE ATROPHY :**

Should be written in:

- ✓ CRAO.
- ✓ Retinitis pigmentosa.
- (From optic n. atrophy table).

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- **PHAKOMATOSIS** p 161.
- **FINGER PRINTS OF BLUNT TRAUMA** p. 177.
- **HEAD INJURIES** p.183.
- **MULTIPLE SCLEROSIS** p.194.
- **ANTERIOR ISCHEMIC OPTIC ATROPHY** p.196.
- P.202.
- **PURKINJE IMAGES** p.210.
- **REFRACTIVE SURGERY** p.214.
- **EYE MOVEMENT** p.219.
- **INFANTILE & REFRACTIVE ESOTROPIA:** p.224.

ORAL:

- **USES OF FLUORESCEIN & ROSE BENGAL DYES?**

- **RED EYE:**
  - What is the most important Comparison point?
    - ✓ Size of pupil.
- **OCULAR EMERGENCIES AS CRAO.**

- **ALL TYPES OF TRAUMA: VVVVVVIMP.**

- **IN CASE OF INTRAOCULAR FOREIGN BODY:**

- Never use MRI as it may attract it causing more injury.

- **OCULAR MANIFESTATIONS OF PARASITIC INFECTION:**
  - ✓ Parasitic blepharitis.
  - ✓ Phlycten by toxins of intestinal parasites.
  - ✓ Acanthameba keratitis.
  - ✓ Complicated cataract (Ankylostoma).
  - ✓ Hydatid cyst Proptosis.
  - ✓ Larva migrans in retina.
  - ✓ Toxic amblyopia by Quinine (Anti-Malarial Drug).

- **INDICATIONS OF KERATOPLASTY & PARACENTESIS?**

- **PHLYCTEN –PTERYGIUM- BUPHTHALMOS- TRACHOMA:** Vvvvvvvvimp

- **WHEN DOES PERFORATION OCCUR IN DENDRETIC ULCER?**
  - ✓ If steroids are used.
  - ✓ If 2ry infection occurs.

- **OCULOMOTOR NERVE PALSY**

- **DACROADENITIS** = inflammation of Lacrimal gland